IN THE SPECIFICATION:

Please replace paragraph number **[0001]** with the following rewritten paragraph:

[0001] Field of the Invention: The present invention relates to a method and apparatus used in transfer molding to ~~providing~~ provide a flowable resin to a substrate having one or more semiconductor devices thereon for the packaging thereof. More specifically, the present invention relates to a method and apparatus used in transfer molding to prevent voids and air pockets in a flowable resin provided to a substrate having one or more semiconductor devices thereon for the packaging thereof.

Please replace paragraph number **[0003]** with the following rewritten paragraph:

[0003] However, as shown in drawing FIG. 1, when the resin or underfill material 1 flows to fill the horizontally oriented cavities 3, the flow is usually not uniform due to various design factors of the semiconductor device 32 and lead frame 33 and gravity acting on the resin 1. As a result, the fronts 1a, 1b of the resin 1 flowing above and below the semiconductor device 32 will often meet above the semiconductor device 32 instead of at the vent, causing the molded package to have undesirable air pockets and/or voids 2, as shown in drawing FIG. 2. These types of defects not only degrade the outer appearance of the molded package, but also produce reliability problems with respect to its resistance to thermal shock and exposure to humidity and other contaminants.

Please replace paragraph number **[0016]** with the following rewritten paragraph:

[0016] FIG. 5 is a cross-sectional side view of a substrate in a vertically oriented mold cavity, illustrating resin flowing in the vertically oriented mold cavity in a substantially vertical upward direction, in accordance with the present invention;

Please replace paragraph number **[0017]** with the following rewritten paragraph:

[0017] FIG. 6 is a cross-sectional side view of a substrate in a vertically oriented mold cavity, wherein the cavity includes protrusions configured to contact bond pads or contacts of the

substrate, and illustrating resin flowing into the vertically oriented mold cavity in a substantially vertical upward direction, in accordance with the present invention;

Please replace paragraph number **[0018]** with the following rewritten paragraph:

[0018] FIG. 7 is a cross-sectional side view of a ball grid array substrate positioned in a vertically oriented mold cavity, illustrating resin flowing upwardly into the vertically oriented mold cavity, in accordance with the present invention;

Please replace paragraph number **[0019]** with the following rewritten paragraph:

[0019] FIG. 8 is a cross-sectional side view of an assembly, including a carrier substrate and a semiconductor device flip-chip bonded thereto, in a vertically oriented mold cavity, illustrating resin flowing in the vertically oriented mold cavity in a substantially vertical upward direction, in accordance with the present invention;

Please replace paragraph number **[0030]** with the following rewritten paragraph:

[0030] A fourth embodiment of the present invention is illustrated in drawing FIG. 7, depicting resin 24 filling the cavity 10‴ of a transfer mold 5‴ in a substantially vertical direction to cover at least the surface 45 of the substrate, in this case a flip-chip type semiconductor die 52. Of course, the cavity 10‴ may alternatively be configured to hold and facilitate encapsulation of an individual semiconductor die 52, a plurality of individual dice, or a wafer or other large-scale substrate with a plurality of semiconductor devices thereon. The fourth embodiment is similar to the second embodiment in all respects, except the semiconductor die 52 includes conductive structures 56, such as balls, bumps, pillars, or columns including a conductive material such as a solder, other metal or metal alloy, a conductive epoxy, a conductor-filled epoxy, or a z-axis conductive elastomer, predisposed on and protruding from the bond pads thereof. Additionally, the second half 14‴ of the transfer mold 5‴ may include a plurality of imperforate recesses 58 formed in and configured to substantially conformally receive at least portions of conductive bumps 56 so as to prevent resin 24 from completely covering the same.

Please replace paragraph number **[0033]** with the following rewritten paragraph:

[0033] A sixth embodiment is illustrated in drawing ~~FIG's.~~ FIGS. 9 and 10, depicting resin 24 filling a gap 72 between a semiconductor die 52 and a substrate 64, such as a carrier substrate or an interposer (i.e., a flip-chip assembly 62) in a substantially vertical direction. In the sixth embodiment, at least one barrier 76 is disposed adjacent the periphery 51 of semiconductor die 52 and includes a space or opening 78 formed therein and configured to facilitate dispensing or injecting the resin 24 into a gap 72 between the semiconductor die 52 and the substrate 64. Further, as a dispenser 82 provides resin 24 through opening 78, the resin 24 preferably fills the gap 72 between the substrate 64 and die 52 via capillary action, although positive or negative pressure may be applied to resin 24 as known in the art to accelerate the flow of resin 24 into the gap 72. As such, the at least one barrier 76 is provided to contain the resin in the gap 72 between the semiconductor die 52 and the substrate 64. Accordingly, as in the previous embodiments, it can be well appreciated that gravity provides a more uniform flow front 26, wherein the gravitational force induces the resin 24 to fill in spaces above conductive structures 66 where potential air pockets and/or voids are conventionally formed around the conductive structures 66 in the gap 72 between the substrate 64 and semiconductor ~~die52.~~ die 52.